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TI Liquid electrostatographic developer containing dispersion resin grains

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DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	JP 05150560	A2	19930618	JP 1991-335575	19911126
	JP 2916551	B2	19990705		
PRAI	JP 1991-335575		19911126		

AB In the title developer in which at least resin grains are dispersed in a nonaq. solvent having an elec. resistivity $>109 \Omega\text{-cm}$ and a dielec. constant <3.5 , the dispersed resin grains are copolymer resin grains prepared by polymerization of a solution containing ≥ 1 kind(s) of monofunctional monomers (A) being soluble in the nonaq. solvent but insol. after polymerization, ≥ 1 kind(s) of the following monomers (C) containing specific substituents and copolymerizable with the monomers A, ≥ 1 kind(s) of polyfunctional monomers (D) having ≥ 2 polymerizable functional groups copolymerizable with the monomers A, and ≥ 1 kind(s) of the following dispersion-stabilizing resins [P]. The monomers (C) have the formula $\text{C}(-\text{a}1)\text{H}:\text{C}(-\text{a}2)-\text{U}1-\text{E}1$ [$\text{E}1 = \text{C}>8$ aliphatic group; substituent selected from substituents $(-\text{A}1-\text{B}1-)\text{m}-(-\text{A}2-\text{B}2-)\text{n}-\text{R}21$ {I; $\text{R}21 = \text{H}$, $\text{C}1-18$ aliphatic group; $\text{B}1, \text{B}2 = \text{O}, \text{S}, \text{CO}, \text{CO}_2, \text{SO}_2, \text{NR}_{22}, \text{NHCONH}$, etc.; $\text{m}, \text{n} = 0-4$; $\text{R}22 = \text{R}21$; $\text{A}1, \text{A}2 = \text{C}1-18$ hydrocarbon group which may be substituted or in which $\text{CH}[-\text{B}3-(-\text{A}4-\text{B}4-)\text{p}-\text{R}23]$ [$\text{B}3, \text{B}4 = \text{B}1, \text{B}2$; $\text{A}4 = (\text{sub})\text{C}1-18$ hydrocarbon group; $\text{R}23 = \text{R}21$; $\text{p} = 0-4$] may be inserted in the linkage of the main chain; m, n , and p are not 0 simultaneously}; $\text{U}1 = \text{CO}_2, \text{CONH}, \text{C}(:\text{O})\text{NE}_2, \text{O}$, etc.; $\text{E}2 = \text{aliphatic group}$, I; $\text{a}1, \text{a}2 = \text{H}$, alkyl, $\text{C}(:\text{O})-\text{O}-\text{E}3, \text{CH}_2\text{C}(:\text{O})-\text{O}-\text{E}3$; $\text{E}3 = \text{aliphatic group}$]. The dispersion-stabilizing resins [P] are soluble to the nonaq. solvent and are graft copolymers made by polymerization of a solution containing ≥ 1 kind(s) of each of a monofunctional A-B block copolymer macromer having a weight average mol. weight $1 \times 10^3-2 \times 10^4$ and in which an A-B block copolymer comprising block(s) A containing a polymer component containing ≥ 1 kind(s) of polar groups selected from phosphono, CO_2H , SO_3H , OH , formyl, amino, $\text{P}(=\text{O})(\text{OH})\text{R}_1$ ($\text{R}_1 = \text{R}_2, \text{OR}_2$; $\text{R}_2 = \text{hydrocarbon group}$), etc. and/or a polymer component corresponding to the monofunctional monomer (A) and block(s) B containing at least a polymer component $[-\text{CHb}1-\text{C}(-\text{X}1-\text{Y}1)\text{b}2-]$ ($\text{X}1 = \text{CO}_2, \text{OCO}, \text{O}, \text{SO}_2, \text{CO}$, etc; $\text{Y}1 = \text{hydrocarbon group}$; $\text{b}1, \text{b}2 = \text{H}$, halo, CN, $\text{C}1-8$ hydrocarbon group) is formed and a polymerizable double bond(s) group is bonded at the end(s) of the polymer main chain of the block(s) B and a monomer(s) $\text{CHd}1:\text{C}(-\text{X}2-\text{Y}2)\text{d}2$ ($\text{X}2 = \text{CO}_2, \text{OCO}, \text{O}$,

etc.; Y2 = C>8 hydrocarbon group; d1, d2 = H, halo, C1-6 hydrocarbon group). The developer shows superior dispersion stability, redispersion property, and fixability and provides original plates for use as offset masters having remarkably improved durability.

IC ICM G03G009-13

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST electrostatog liq developer resin grain; latex grain electrostatog liq developer; electrophotog liq developer dispersion resin

IT Electrophotographic developers
(liquid, dispersion resin grains for, preparation of)

IT Electrography
(developers, liquid, dispersion resin grains for, preparation of)

IT 154732-38-4P 154732-39-5P 158008-04-9P 158008-05-0P 158008-06-1P
158008-07-2P 158008-09-4P 158008-11-8P 158008-14-1P 158008-15-2P
158008-16-3P 158008-18-5P 158008-19-6P 158008-20-9P 158008-21-0P
158008-22-1P 158008-24-3P 158008-25-4P 158008-26-5P 158008-27-6P
158008-28-7P 158008-29-8P 158008-30-1P 158008-32-3P 158111-76-3P
158111-77-4P 158111-78-5P 158111-79-6P 158111-80-9P

RL: SPN (Synthetic preparation); PREP (Preparation)
(latex, preparation and use of, as dispersion resin grains for liquid electrostatog. developer)

IT 138115-34-1DP, Ethyl methacrylate-triphenylmethyl methacrylate block copolymer, carboxy-terminated, esters with 2-hydroxyethyl methacrylate, hydrolyzed 138232-67-4DP, Benzyl methacrylate-butyl methacrylate block copolymer, 4-vinylbenzyl-terminated, hydrogenolyzed 139598-51-9DP, Octadecyl vinyl ether-triphenylmethyl methacrylate block copolymer, 4-vinylbenzyl-terminated, hydrolyzed 139598-52-0DP, N-hydroxyethyl-N-ethyldithiocarbamate-terminated, reaction product with 2-isocyanatoethyl methacrylate 158007-99-9DP, hydroxyethyl-terminated, methacrylate, hydrolyzed

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and polymerization of, for dispersion-stabilizing resin)

IT 139598-53-1P 139598-54-2P 139598-55-3P 139598-56-4P 139598-57-5P
139598-58-6P 139598-59-7P 139598-60-0P 139598-61-1P 139598-62-2P

139598-63-3P	139598-64-4P	139598-65-5P	139598-66-6P	139598-
68-8P				
139598-69-9P	139598-71-3P	139598-72-4P	139598-75-7P	139598-
76-8P				
139598-77-9P	139598-80-4P	139598-81-5P	139598-82-6P	139598-
83-7P				
139598-84-8P	139687-39-1P	147067-02-5P	147127-63-7P	
150958-17-1P	150958-19-3P	158008-00-5DP, hydrolyzed	158008-01-	
6P				
158008-02-7P	158008-03-8P			
RL: SPN (Synthetic preparation); PREP (Preparation)				
(preparation and use of, as dispersion-stabilizing resins for				
liquid	electrostatog. developer)			